
Thailand's Fossil-Fuel Reserves and Supplies : Present and Future

By

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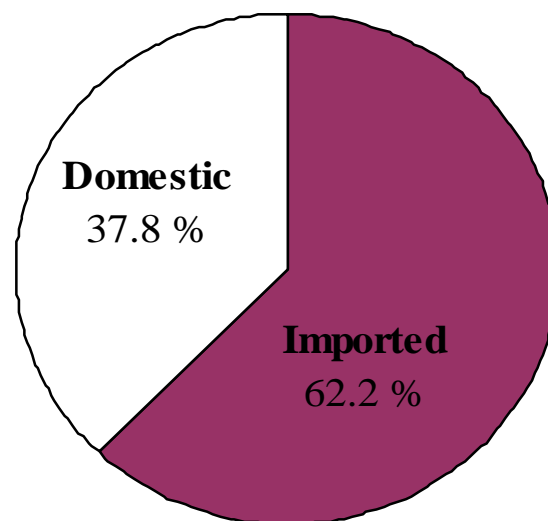
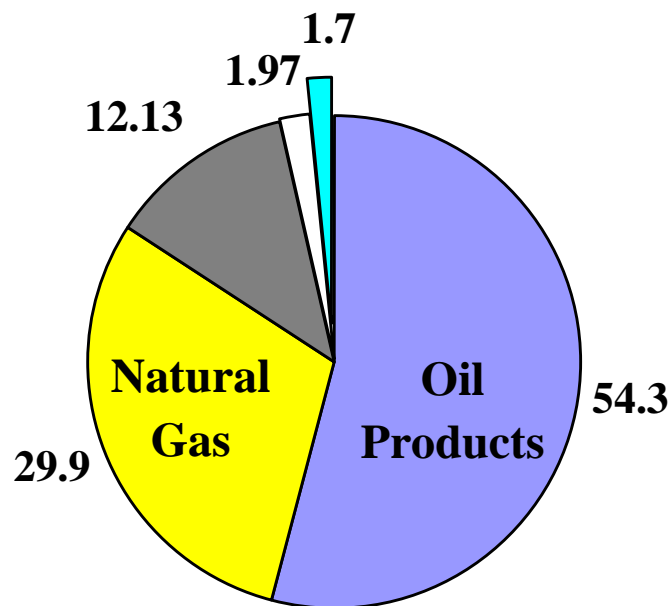
Outline

- **Introduction:** Energy Demand & Major Players
- **Oil & Gas**
 - Current Oil & Gas Production
 - Joint Development Area (JDA)
 - Oil & Gas Reserves & Prospects
- **Coal Mining Industry**
 - Coal Production & Utilization
 - Coal Reserves & Resources
- **Thailand Fossil-Fuels Policies**
- **Summary**



Thailand Energy Demand in 1999

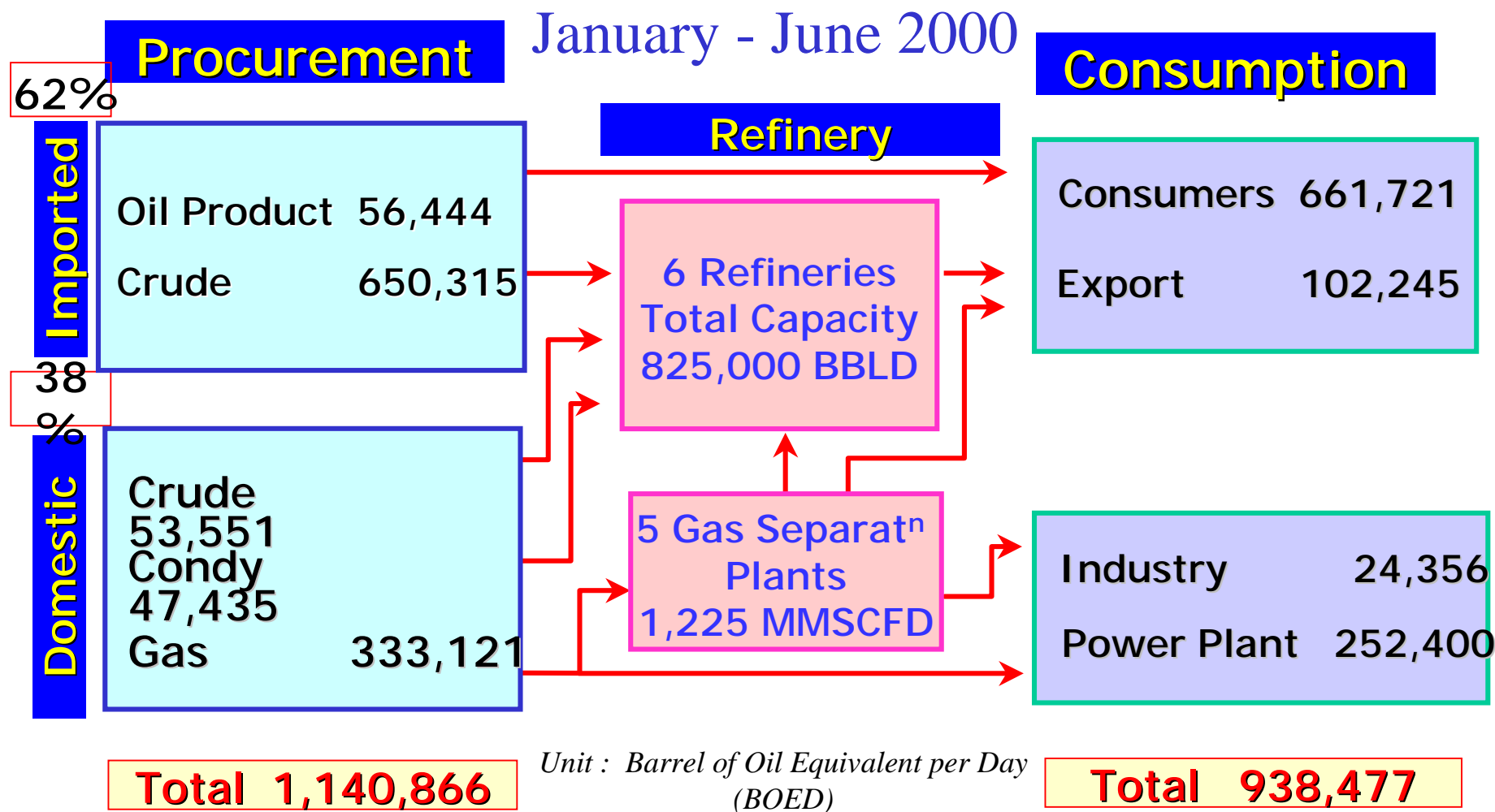
Total Energy Demand = 1,125,000 BOED (3.3% Y-o-Y growth)



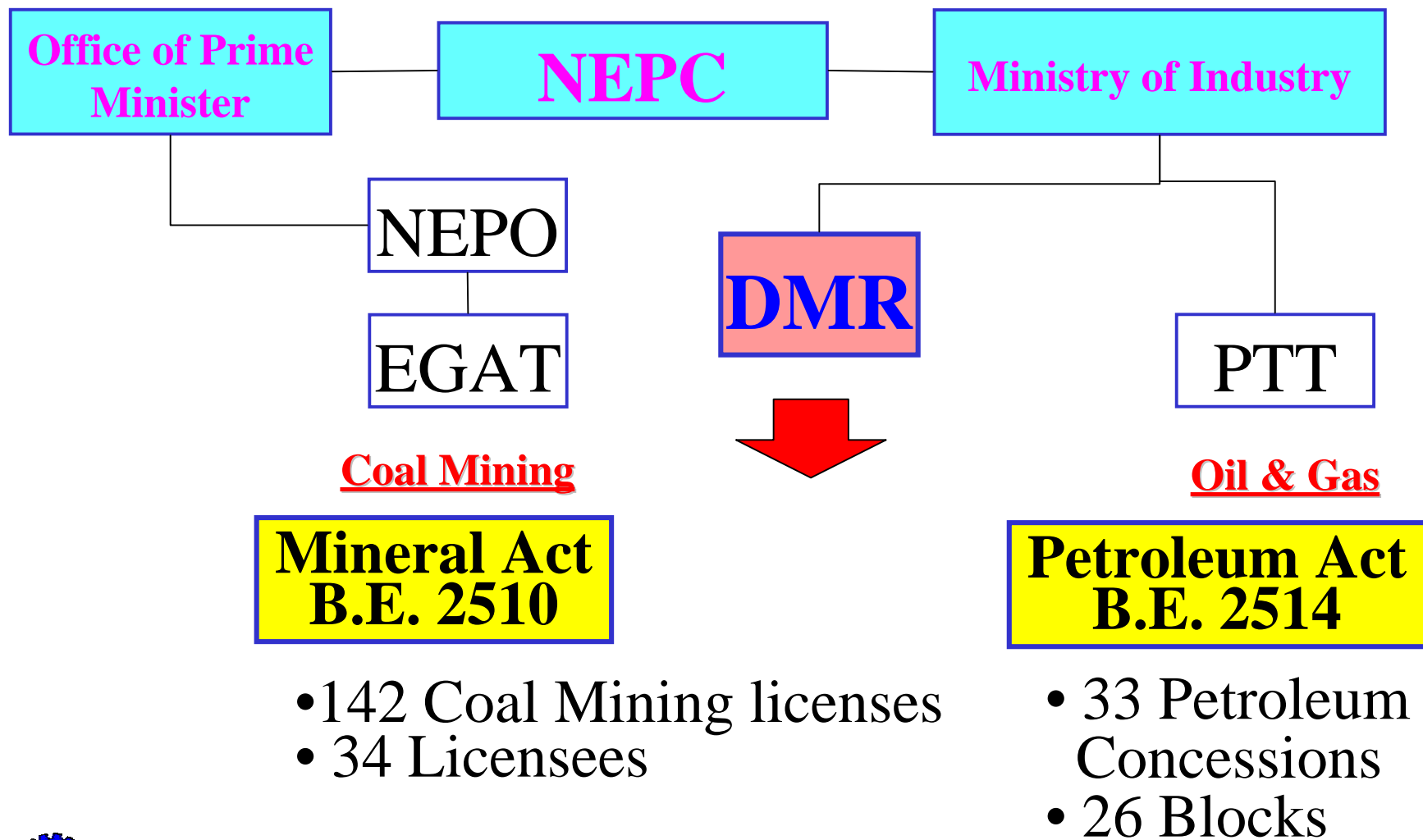
■ Oil ■ Gas ■ Lignite ■ Imported Coal ■ Hydro



Thailand Petroleum Balance



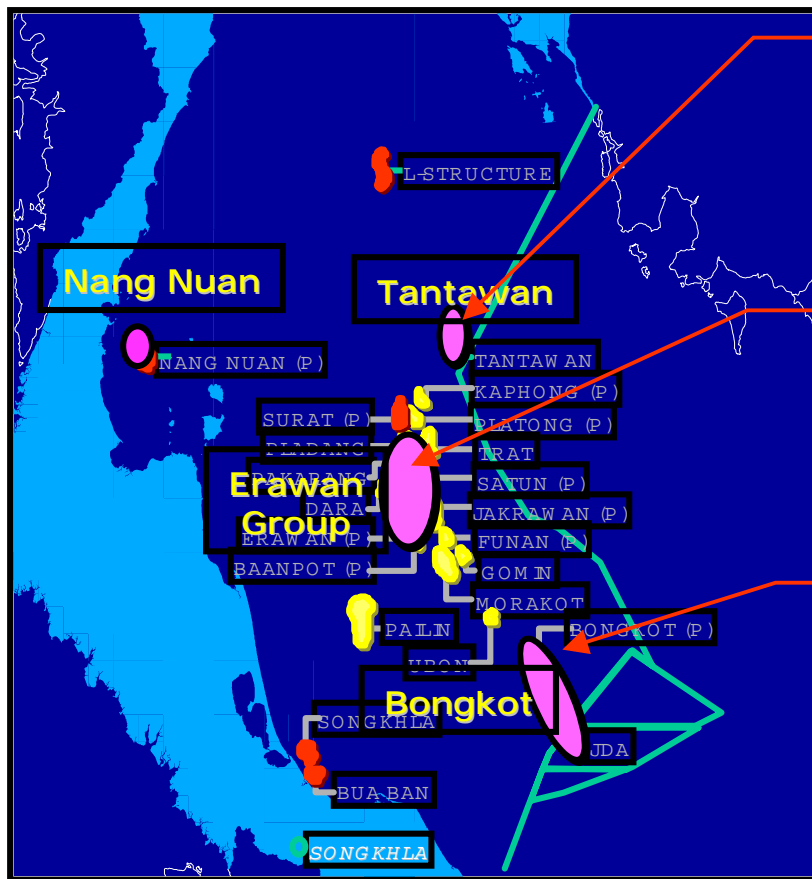
Rules/Regulations & Major Energy Players



Oil & Gas Sector



Offshore Petroleum Production



Chevron
Gas
Oil

158 MMSCFD
36,955 BBLD

Unocal
Gas
Condensate

1,215 MMSCFD
41,662 BBLD

PTTEP
Gas
Condensate

379 MMSCFD
9,470 BBLD

Note - Average Production on September 2000



Onshore Petroleum Production



Thai Shell

Oil

22,693

BBLD

Gas

55

MMSCFD

ESSO E&P

Gas

77

MMSCFD

Sino U.S.

Oil

627

BBLD

Pacific Tiger Energy

Oil

212

BBLD

PTTEPI

Oil

435

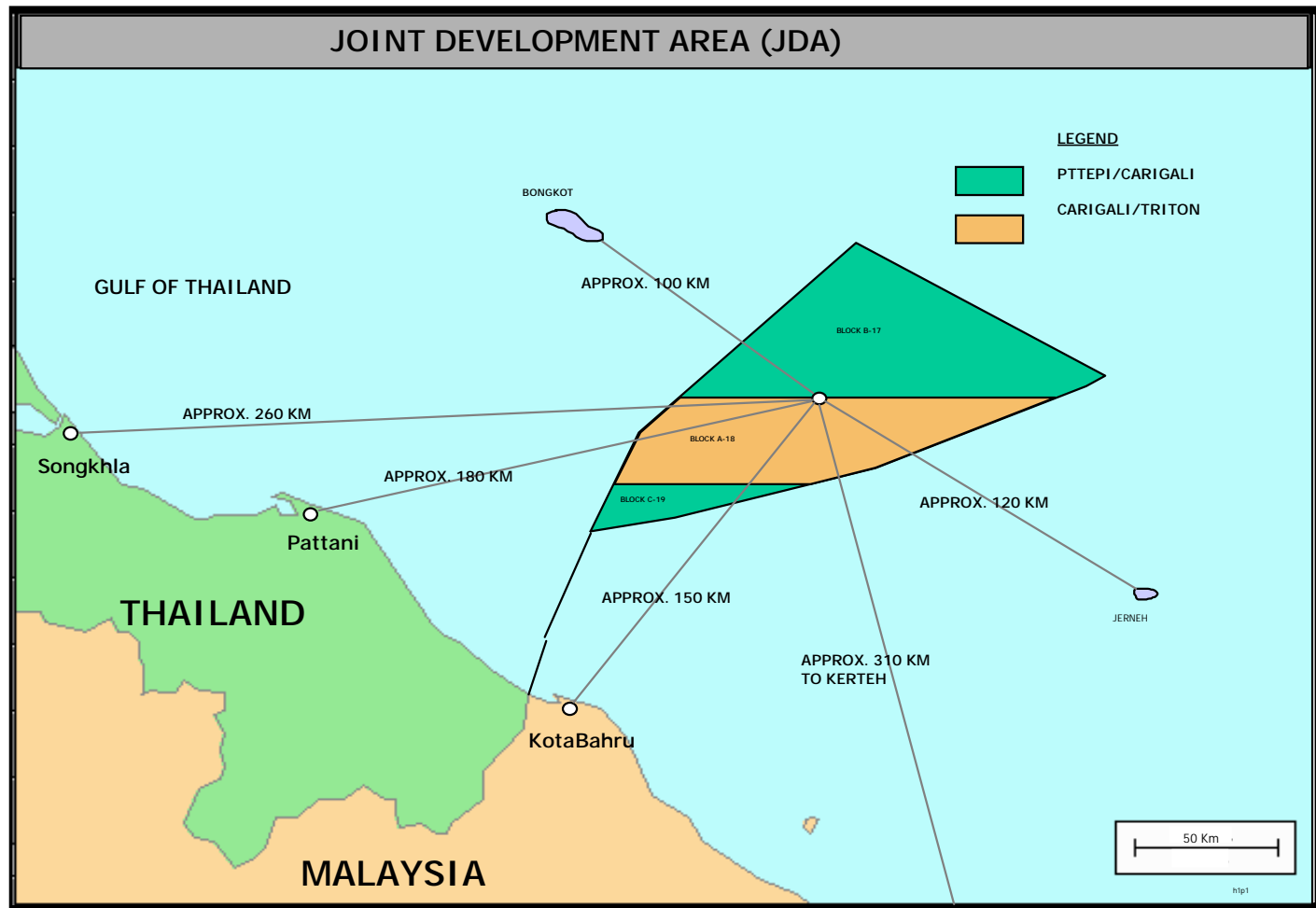
BBLD



Note - Average Production on September 2000

Energy Resources Policy and Planning Unit

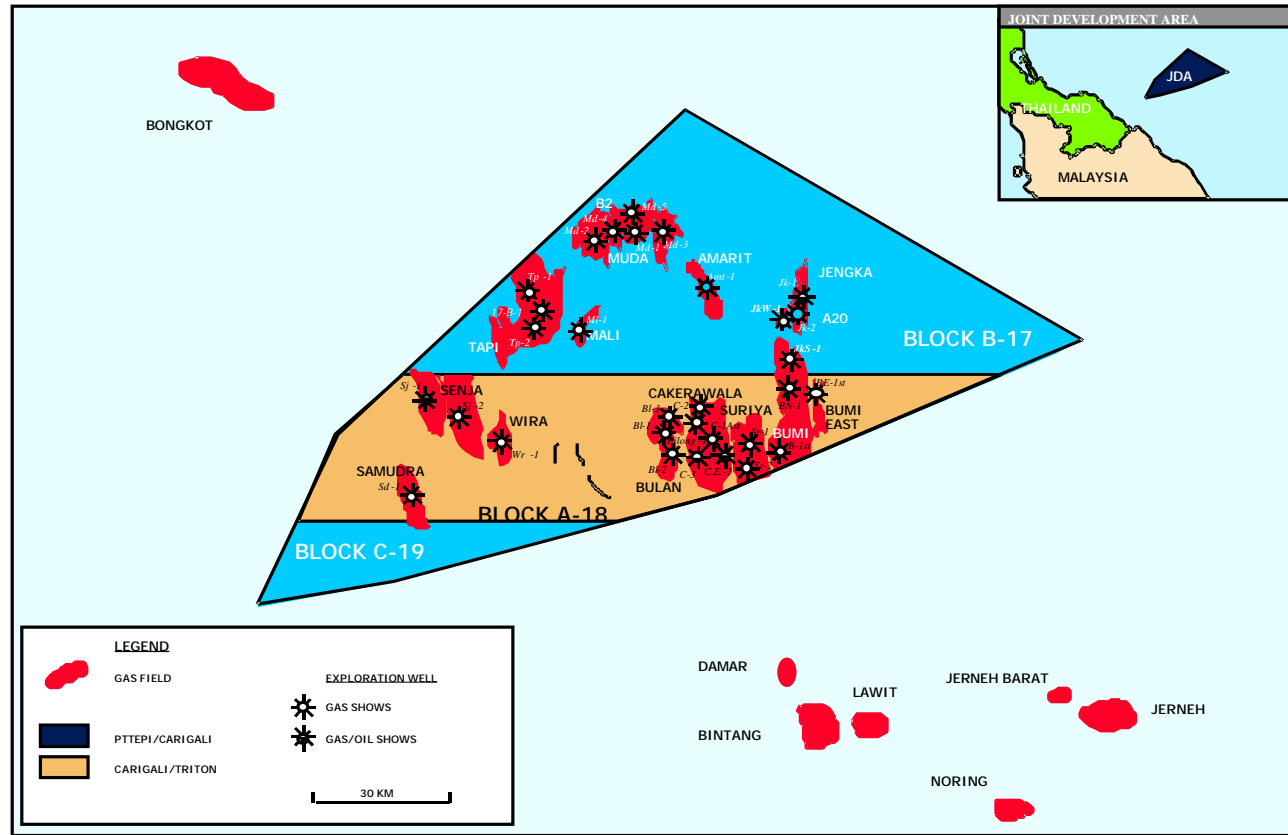
Thai-Malaysia Joint Development Area



Thai-Malaysia Joint Development Area

Gas Fields in the MTJA

(As of November 1998)

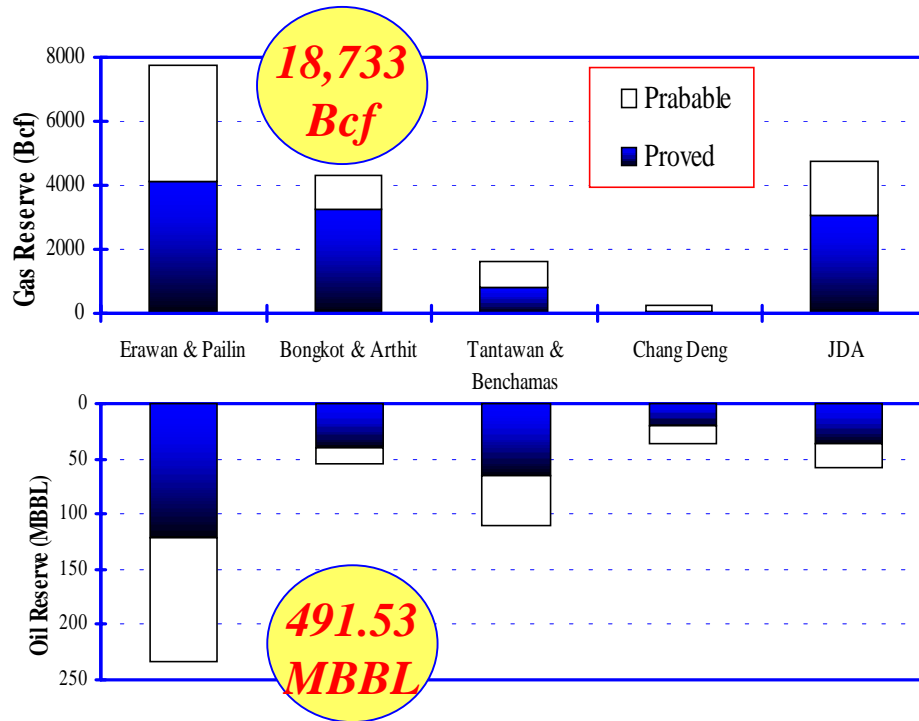


C:\Expl\Map\1998\SeptEx98.ppt

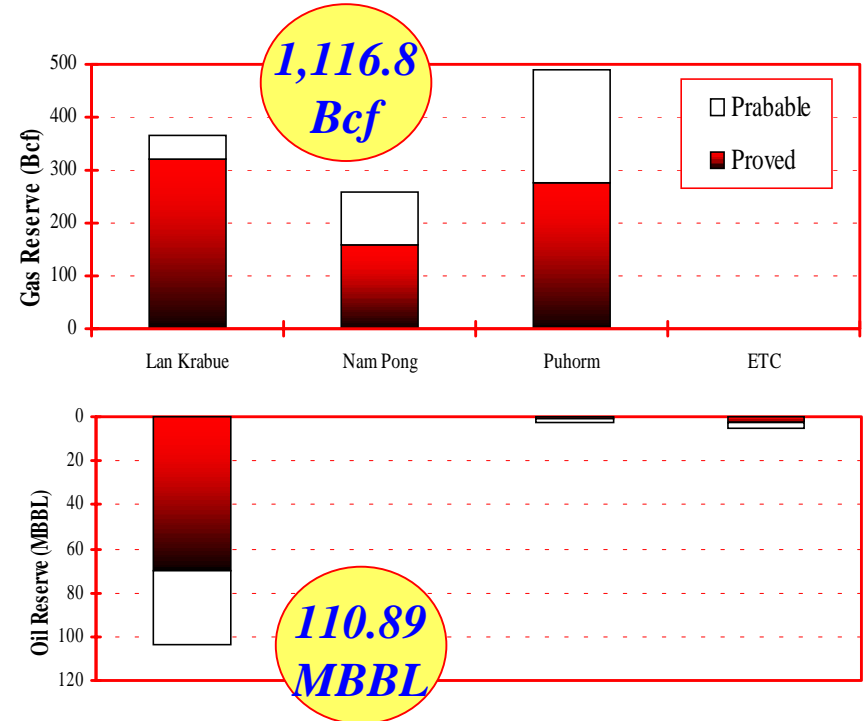


Petroleum Reserves

Offshore



Onshore

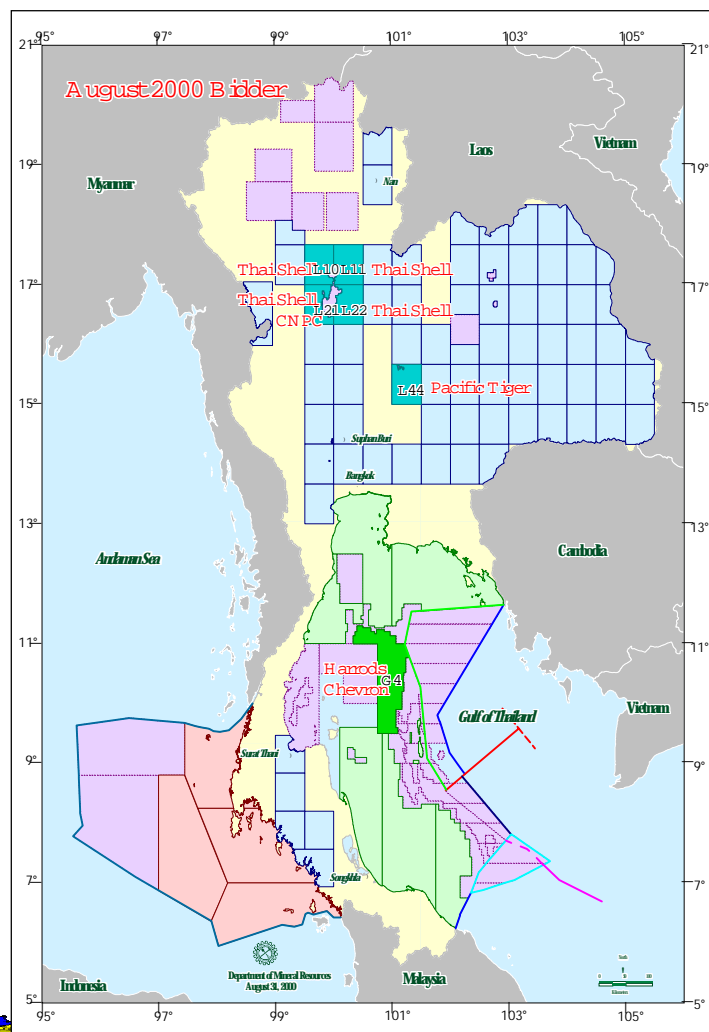


Total: Gas 19.85 Tcf, Oil & Condensate 602 MBBL

For Gas; R/P ratio = 27 years



Inventory on Bidding



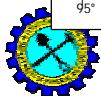
Total 87 Blocks Open For Bidding

- 8 Blocks in The Gulf of Thailand
- 75 Blocks onshore
- 4 Blocks in Andaman Sea

Total Acreage of 450,000 Sq. Km

5 Companies bid for 6 Blocks

(result of bidding will be announced soon)



Coal Mining Industry



Thailand's Coal Mining Industry

1999 Key Statistic

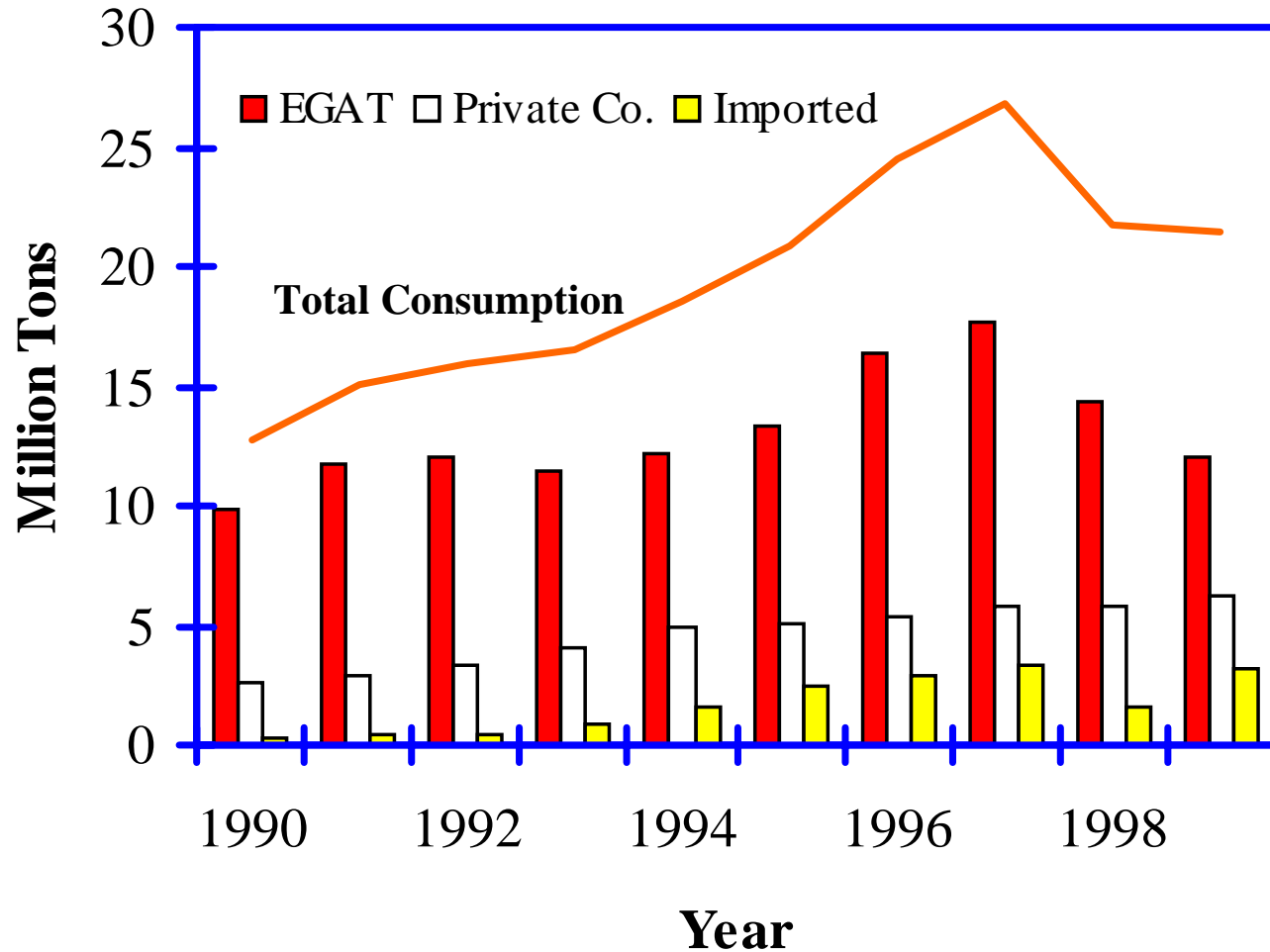
- Total Consumption **21.04** Million Tons
 - Domestic Production **18.26** (86%) Million Tons
 - Import **2.78** (14%) Million Tons
- Remaining Reserves est. **2,150.0** Million Tons

or about 100 years of supply

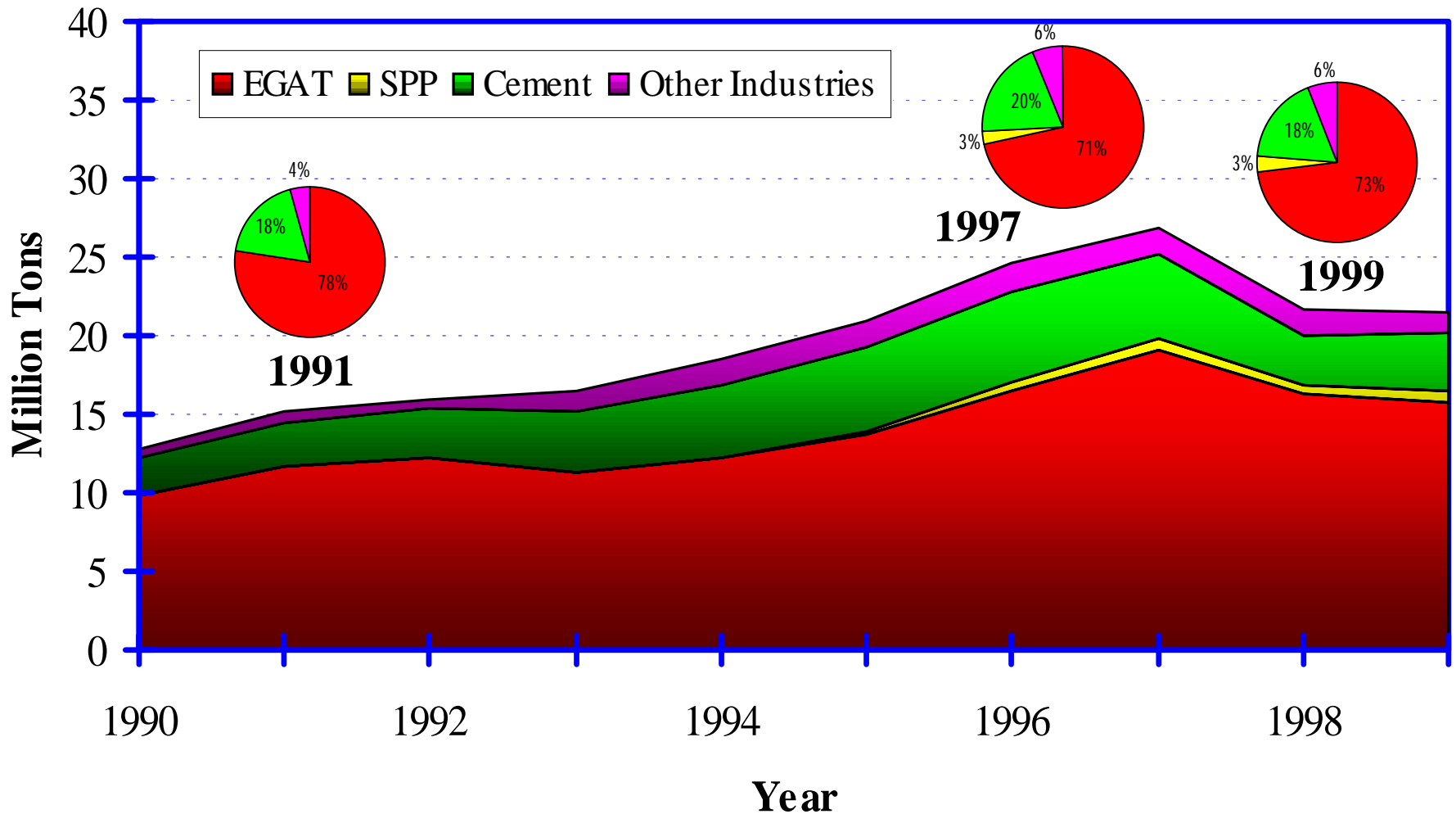
- Coal represents 13% of Thailand Total Primary Energy Consumption
- Market size = 12,500 million Baht annually
with addition of 10,000 million Baht from related activities



Current Coal Production and Import



Coal Utilization

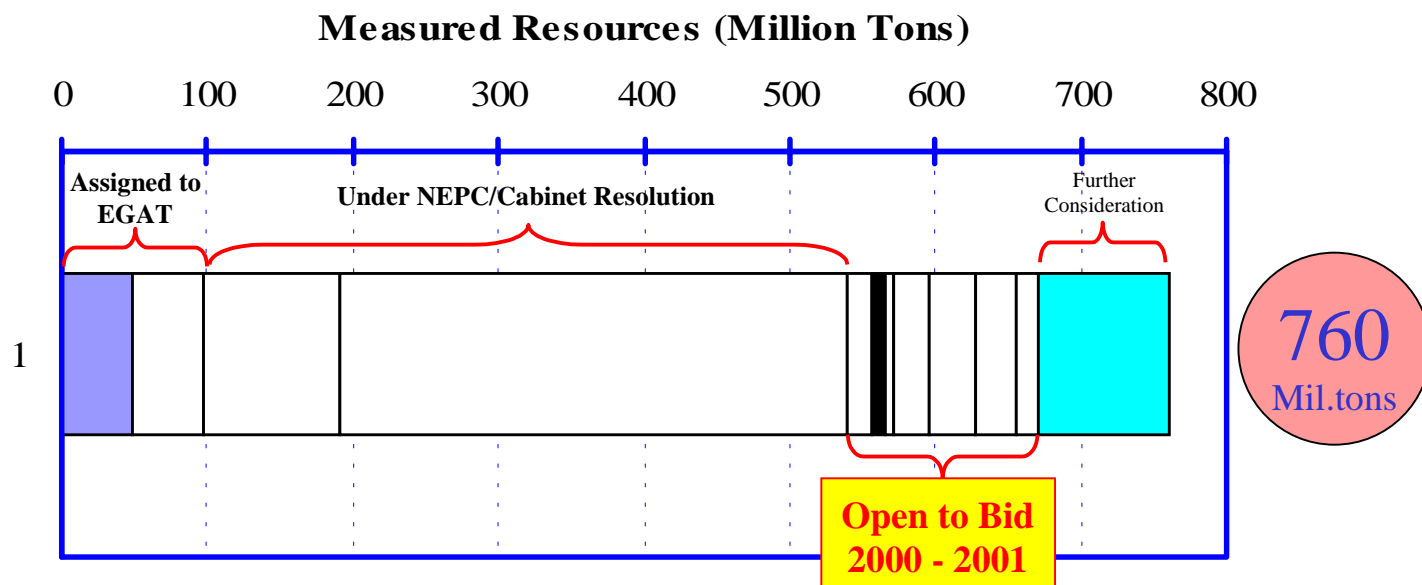


Coal Production Areas















- Total of 15 coal mines with accumulated production = 227.82 mil.tons
- 8 Active Mines
 - **Reserves = 1266.65 mil.tons**
(97% belongs to EGAT's Mae Moh mine)
- 7 Suspended Mines
 - **Reserves = 123.10 mil.tons**
(90% belongs to EGAT's Krabi mine)
- Private Mines are expected to be depleted within 7-10 years.

Undeveloped Reserves



Undeveloped Areas Under Section 6 bi (Mineral Act B.E. 2510)

Basins / Areas	Mil.tons	Basins / Areas	Mil.tons	Basins / Areas	Mil.tons
 Ngao	48.40	 Serm Ngam	6.19	 Undeveloped area outside Section 6 bi (Mineral Act 2510)	88.76
 Sin Pun	48.75	 Chaing Muan	25.28		
 Wiang Haeng	93.02	 Mae Tha	30.45		
 Saba Yoi	349.86	 Mae Ramat	28.82		
 Chae Hom	16.19	 Khian Sa	15.41		
 Wang Nua	9.01				



Thailand Fossil-Fuels Policies

Themes	Liberalization	International Co-operation	Environmental Concerns
Achievements	<ul style="list-style-type: none"> - Deregulation of Oil Refinery and Retail sectors. - Competitions in Petroleum E&P and Coal Supply businesses. 	<ul style="list-style-type: none"> - Thai-Malaysia JDA - Power, Gas & Coal purchase from neighboring countries - APEC & ASEAN energy pact. 	<ul style="list-style-type: none"> - Low Sulfur emission policies on both Automotive & Power generation.
Next Steps	<ul style="list-style-type: none"> - Deregulation of Power & Gas sectors - Privatization EGAT & PTT 	<ul style="list-style-type: none"> - Thai-Cambodia overlapping area. - ASEAN Power & Gas grid 	<ul style="list-style-type: none"> - Promotion of Clean fuels and technology such as CCGT, IGCC, NGV.

Thailand's Unchanged Free trade Policy, despite change of governments



Summary

Fossil Fuels Reserves in Thailand

Natural Gas (2P)	19.9 Tcf
Crude & Condensate	612 MMbbl
Coal	2,150 M.Tons

Note: 1 Tcf of NG can fire 1,000 MW power plant for 18 years

100 M.Tons of Coal (Lignite) can fire 1,000 MW power plant for 14
years



Thank You

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